SPECIFICATION

Please amend the paragraph bridging from page 2, line 27 to page 3, line 13, to insert commas as indicated, whereby the paragraph will read as follows:

Hypophosphorous acid, (H_3PO_2), and alkali metal hypophosphites are useful as sources of hypophosphite ions in the electroplating baths of the present invention. In one embodiment, the source of hypophosphite ion in the bath is a mixture of hypophosphorus acid and an alkali metal hypophosphite salt. Examples of useful hypophosphite salts include the sodium salt (NaH_2PO_2), the potassium salt (KH_2PO_2), etc. The concentrations of the hypophosphite ion in the plating bath of the present invention determines the amount of phosphorus in the iron-phosphorus alloy deposited from the plating bath. The amount of hypophosphorus acid or alkali metal hypophosphite salts contained in the bath may vary from about 0.01 to about 15 grams per liter, and the amount of phosphorus contained in the plating baths of the present invention may range from about 0.2 to about 8 grams of phosphorus per liter of the plating bath. In another embodiment, the total of hypophosphite ion and hypophosphorus acid in the plating bath may be between about 0.005 and 0.1 molar, and in yet another embodiment, from about 0.01 to about 0.07 molar. The particular amount of hypophosphorous acid and hypophosphite included in the electroplating bath varies with the desired phosphorus content of the deposited iron-phosphorus alloys.

Please amend the paragraph at page 3, lines 14-28, to insert a comma, so as to read as follows:

As noted above, the aqueous acidic iron phosphorus baths of the present invention also contain a sulfur-containing compound selected from sulfoalkylated polyethylene imines and mercapto aliphatic sulfonic acids or alkali metal salts thereof. It has been discovered than when these sulfur-containing compounds, as described more fully below, are incorporated into the electroplating baths, superior iron-phosphorus alloys are deposited from the bath onto conductive substrates, and these improved alloys are obtainable with the electroplating baths of the present invention which may be free of complexing agents ordinarily utilized in prior art electroplating baths. In one embodiment, the mercapto aliphatic sulfonic acids and alkali metal salts may be represented by the formula

$$Y–S–R^1–SO_3X \qquad I$$

wherein X is H or an alkali metal, R^1 is an alkylene group containing from 1 to about 5 carbon atoms, Y is H, $S–R^1–SO_3X$, $C(S)NR_2''$, $C(S)OR''$ $C(NH_2)NR_2''$, or a heterocyclic group, and each R'' is independently H or an alkyl group containing from 1 to about 5 carbon atoms.

Please amend the paragraph at page 5, lines 1-14, to read as follows:

The plating baths of the present invention may further contain one or more water-insoluble materials selected from metals, water-insoluble inorganic and organic fine particulates, and fibers. Examples of the water-insoluble materials include finely divided metal powders such as powders of Pb, Sn, Mo, Cr, Si, Mo-Ni, Al-Si, Fe-Cr, Pb-Sn, Pb-Sn-Sb, Pb-Sn-Cu, etc.; oxides such as Al_2O_3, SiO_2, ZrO_2, TiO_2, ThO_2, Y_2O_3, CeO_e, etc.; nitrides such as Si_3N_4, TiN, BN, CBN, etc.; carbides such as TiC, WC, SiC, Cr_3C_2, B_4C, ZrC, etc.; borides such as ZrB_2, Cr_3B_2, etc.; carbon allotropes such as fluorinated graphite and nanodiamond; sulfides such as MoS_2 ; other inorganic fine particulates; fluoride resins such as polytetrafluoroethylene, epoxy resins, and rubber latexes; other organic fine particulates; and glass fibers, carbon fibers including ~~nenotubes~~ nanotubes, various metal whiskers, and other inorganic and organic fibers including metal-polymer amphiphiles. Among them, hard or lubricating materials may be used particularly when it is intended to plate slide members. An example of a useful fluoride resin powder is Fluoro A650 an aqueous polytetrafluoroethylene dispersion from Shamrock Technical Incorporated.

Please amend the Abstract into a single paragraph, so as to read as follows:

In one embodiment, this invention relates to an aqueous acid iron phosphorus bath which comprises

(A) at least one compound from which iron can be electrolytically deposited,

(B) hypophosphite ion, and

(C) a sulfur-containing compound selected from sulfoalkylated polyethylene imines, sulfonated safranin dye, and mercapto aliphatic sulfonic acids or alkali metal salts thereof. Optionally, the aqueous acidic iron phosphorus electroplating bath of the invention also may comprise aluminum irons. The alloys which are deposited on the substrates by the process of the present invention are characterized by the presence of iron, phosphorus and sulfur.